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EXAMINER
WILLIAMS, JEFFERY L

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 7, 13 – 15, 18 – 22, and 24 – 26* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 7, 13 – 15, 18 – 22, and 24 – 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

1   **DETAILED ACTION**

2

3   ***Continued Examination Under 37 CFR 1.114***

4

5   A request for continued examination under 37 CFR 1.114, including the fee set

6   forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

7   application is eligible for continued examination under 37 CFR 1.114, and the fee set

8   forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

9   has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

10   10/17/07 has been entered.

11

12   Claims 1, 7, 13 – 15, 18 – 22, and 24 – 26 are pending.

13   All objections and rejections not set forth below have been withdrawn.

14

15   The text of those sections of Title 35, U.S. Code not included in this action can

16   be found in a prior Office action.

17

18   ***Specification***

19

20   The specification is objected to as failing to provide proper antecedent basis for

21   the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

22   of the following is required: Claims 1, 7, 13 – 15, 18 – 22, and 24 – 26 comprise the

1 recitations of "*wherein the verification system ... provides security integrity for the virtual*

2 *machine it installs*", "*wherein the verification system verifies the authenticity of each*

3 *element of a virtual machine...*", and "*wherein the virtual machine installation installs a*

4 *Java Virtual Machine*". The specification fails to provide proper antecedent basis for

5 these recitations.

6

7 ***Claim Rejections - 35 USC § 112***

8

9 **The following is a quotation of the first paragraph of 35 U.S.C. 112:**

10 The specification shall contain a written description of the invention, and of the manner and process of
11 making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
12 art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
13 set forth the best mode contemplated by the inventor of carrying out his invention.
14

15 **Claims 1, 7, 13 – 15, 18 – 22, and 24 – 26 are rejected under 35 U.S.C. 112,**

16 **first paragraph, as failing to comply with the written description requirement.** The

17 claim(s) contains subject matter which was not described in the specification in such a

18 way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the

19 time the application was filed, had possession of the claimed invention. Applicant has

20 not pointed out where the new (or amended) claim is supported, nor does there appear

21 to be a written description of the claim limitations in the application as filed (see above

22 objection to the specification).

23
24
25 The following is a quotation of the second paragraph of 35 U.S.C. 112:

26 The specification shall conclude with one or more claims particularly pointing out and distinctly
27 claiming the subject matter which the applicant regards as his invention.
28

1   **Claim 1, 7, 13 – 15, 18 – 22, and 24 – 26 are rejected under 35 U.S.C. 112,**

2   **second paragraph, as being indefinite for failing to particularly point out and**

3   **distinctly claim the subject matter which applicant regards as the invention.**

4   Specifically, claims 1, 7, and 22 comprise nonsensical recitations that a

5   "verification system" or "verification method" installs a JVM. The examiner notes that a

6   verification system or verification method verifies, such as verifies the authenticity of an

7   installation, but it is not a program component such an installer that installs a JVM.   In

8   line with reasoning and in harmony with the applicant's own disclosure in, the examiner

9   presumes for the purpose of examination for the applicant to mean that the verification

10   system or method verifies an installed JVM.

11   Specifically, claims 24, 25, and 26 comprise nonsensical recitations that an

12   "installation installs a JVM". The examiner notes that an installation is an existence of

13   installed elements. Thus an installation may comprise a JVM, but it is not a program

14   component such an installer that installs a JVM.   Furthermore, the examiner notes that

15   the parent claims each recite, in contradiction to claims 24, 25, and 26, that "the

16   verification system" installs the virtual machine. In line with reasoning and in harmony

17   with the applicant's own disclosure in, the examiner presumes for the purpose of

18   examination for the applicant to mean that the virtual machine installation comprises a

19   Java virtual machine.

20

21   All depending claims are rejected by virtue of dependency.

22

1   *Claim Rejections - 35 USC § 103*

2

3   **Claims *1,2,5,7,8,11, 13-23* are rejected under 35 U.S.C. 103(a) as being**

4   **unpatentable over Shear et al. (Shear), "Systems and Methods Using**

5   **Cryptography to Protect Secure Computing Environments", U.S. Patent 6,157,721**

6   **in view of Bodrov, "System and Method of Verifying The Authenticity of**

7   **Dynamically Connectable Executable Images", U.S. Patent 6,802,006.**

8

9   Regarding claim 1, Shear discloses:

10   *a primary library file, the primary library file having a digital signature* (Shear,

11   1:26-28; 2:46-3:3; 4:21-67; Herein, Shear discloses system protection by verifying the

12   digital signatures of basic executables – thus at least one executable module or

13   "primary library file" – of a software installation, for example a virtual machine

14   installation).

15   *a loader program that obtains a digital signature key and further loads the*

16   *primary library file* (Shear, fig. 1:61; 5:1-5; 6:6-11; fig. 3 – Herein, Shear discloses a

17   device comprising a programmed execution environment that loads code - thus a

18   "loader" program – for loading and executing software instructions, also see "load

19   module" - "an executable unit of code loaded into memory by the loader" – Microsoft

20   Press Computer Dictionary, 3rd ed., pg. 287); *wherein, if a public key cannot be*

21   *obtained via a virtual machine provider, the digital signature key is a hidden public key*

22   *internal to the loader program and, if a public key can be obtained via the virtual*

23   *machine provider, the digital signature key is the public key obtained via the virtual*

1   *machine provider* (Shear, 13:65-14:5; 5:1-5; Herein, Shear discloses both obtaining a

2   hidden public key and obtaining a certificate from the software provider).

3   Shear discloses that an execution environment may execute a plurality of

4   software modules, having digital signatures, of which are verified for authenticity by the

5   programmed execution environment (Shear, 4:1-60), and which may interact with other

6   installed software modules (Shear,3:24-35). Shear however does not explicitly disclose

7   that one installed software module "interacts" other installed software modules via a first

8   module "referencing" second modules from the plurality of modules.

9   Bodrov discloses that software modules, such as digitally signed DLL's defining a

10   software installation, interact via one module referencing another module to be loaded

11   and verified by the loader program (Bodrov, fig. 2; 3:12-24).

12   It would have been obvious to one of ordinary skill in the art to employ the

13   method of Bodrov for interaction between software modules of a software installation

14   within the system of Shear. This would have been obvious, because one of ordinary

15   skill in the art would have been motivated to utilize a practical way for software modules

16   to interact.

17   *wherein the loader program is verifes and selectively loads the primary library file*

18   *by comparing the obtained digital signature key with the digital signature of the primary*

19   *library file, the primary library file subsequently verifying and selectively loading the*

20   *plurality of secondary files by calling the loader program to compare the obtained digital*

21   *signature key with the digital signature of each of the plurality of secondary files,*

1   *wherein the computer software is a virtual machine installation* (Shear, fig. 3; 6:5-15;

2   Bodrov, fig. 1).

3   The combination of Shear and Bodrov enables a plurality of software modules

4   (i.e. DLL files), wherein at least one module references a plurality of secondary

5   modules, and wherein all modules are loaded and verified (See above rejection).

6   However, the combination does not disclose that a referenced secondary module may

7   reference another, or 3rd, module. However, it was well known to those of ordinary skill

8   in the art that a referenced module (i.e. DLL), may reference another module (i.e. DLL).

9   *wherein the primary library file is a virtual machine dynamic link library file*

10   (Brodov, 3:12-24 – Herein the combination discloses a verification system to protect

11   software comprising DLLs, thus the verification system is capable of protecting software

12   comprising DLLs, such as virtual machine DLLs).

13   *at least one administrator-configurable file* (Shear, fig. 1:52,64; 3:32-35; 4:38,39

14   – the combination disclose files that are configured by administrators).

15   *the digital signature key comprising a number of keys including a private key*

16   *provided by an administrator* (Shear, fig. 7, 8)

17   *wherein the loader program verifies the digital signature of the at least one*

18   *administrator-configurable file using the private key, wherein the verification system*

19   *verifies the authenticatiy of each element of a virtual machine installation and provides*

20   *security integrity for the virtual machine it installs* (Shear, fig. 3; 6:5-15; Bodrov, fig. 1–

21   all files are verified).

22

1   Regarding claim 14, the combination of Shear and Bodrov enables:

2   *the virtual machine provider is accessed through an internet site to provide the*

3   *public key* (Shear, fig. 1; Abstract; 2:33-40; 3:10-15, 21-35; 5:3-5). The combination

4   teaches obtaining certificate-bearing code from the virtual machine provider via the

5   Internet. Therefore the combination enables the provision of the public key by such

6   means (for definition of a certificate, see Microsoft Computer Dictionary, pg. 93).

7

8   Regarding claim 16, the combination of Shear and Bodrov enables:

9   *wherein the primary library file is a virtual machine dynamic link library file*

10 (Shear, 2:54-3:3; Bodrov, fig. 1)

11

12   Regarding claim 18, the combination of Shear and Bodrov enables:

13   *wherein the loader program is a third-party application that initiates the virtual*

14 *machine installation* (Shear, fig. 1:61; fig. 3; Bodrov, fig. 1:95).

15

16   Regarding claim 19, the combination of Shear and Bodrov enables:

17   wherein the loader program is a virtual machine launcher that initiates the virtual

18 machine installation (Shear, 2:54-3:3; 4:36-40; Bodrov, fig. 1).

19

20   Regarding claims 7, 8, 11, 13, 15, 17, 20, and 21, they are method claims

21 corresponding to the above rejected claims and contain essentially similar limitations,

1   and they are rejected, at least, for the same reasons. Furthermore, the combination

2   enables "launching a loader program" (Shear, fig. 3; Bodrov, fig. 1).

3

4   Regarding claims 22 and 23, they are system claims corresponding to the above

5   rejected claims and contain essentially similar limitations, and they are rejected, at least,

6   for the same reasons.

7

8   Regarding claims 24, 25, and 26, the combination enables for the verification of

9   software installations, including software that represents a Java Virtual Machine.

10

11

12   ***Rsponse to Arguments***

13

14   Applicant's arguments filed 10/31/07 have been fully considered but they are not

15   persuasive.

16

17   Applicant argues or asserts primarily that:

18

19   (i)   Prior art does not disclose or suggest that a software installation can be virtual

20   machine installation (Remarks, pg. 11)

21

1   In response, the examiner respectfully notes that the prior art does not

2   enumerate each and all types software that were known to those of ordinary skill in the

3   art (see for example, Bodrov 3:12-24). However, a virtual machine is software and the

4   prior art demonstrates how to protect such software. Thus, the prior art enables the

5   protection of a virtual machine.

6

7

8   (ii)   Prior art does not disclose loading and verifying tertiary files (Remarks, pg. 11,

9   12)

10

11   In response, the examiner respectfully notes that the prior art makes no

12   suggestions contrary to the knowledge of those of ordinary skill in the art that programs

13   may only comprise two files. The prior art clearly demonstrates the loading and

14   verification of files within succession (see for example, Bodrov fig. 4).

15

16

17   (ii)   Prior art does not disclose or suggest that a virtual machine provider provides a

18   public key (Remarks, pg. 12)

19

20   In response, the examiner respectfully notes that the prior art enables for

21   software providers, including virtual machine providers, to provide a certificate which

22   comprises a public key (Shear, fig. 1; Abstract; 2:33-40; 3:10-15, 21-35; 5:3-5).

1

2

3   ***Conclusion***

4

5   The prior art made of record and not relied upon is considered pertinent to

6   applicant's disclosure.

7

8   See Notice of References Cited.

9

10   A shortened statutory period for reply is set to expire **3** months (not less than 90

11   days) from the mailing date of this communication.

12   Any inquiry concerning this communication or earlier communications from the

13   examiner should be directed to JEFFERY WILLIAMS whose telephone number is

14   (571)272-7965. The examiner can normally be reached on 8:30-5:00.

15   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

16   supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone

17   number for the organization where this application or proceeding is assigned is (703)

18   872-9306.

1   Information regarding the status of an application may be obtained from the

2   Patent Application Information Retrieval (PAIR) system. Status information for

3   published applications may be obtained from either Private PAIR or Public PAIR.

4   Status information for unpublished applications is available through Private PAIR only.

5   For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

6   you have questions on access to the Private PAIR system, contact the Electronic

7   Business Center (EBC) at 866-217-9197 (toll-free).

8

9
10   /Jeffery Williams/
11   Examiner, Art Unit 2137
12
13   /Emmanuel L. Moise/
14   Supervisory Patent Examiner, Art Unit 2137